

Section 5-3: Solving Multi-Step Inequalities

By the end of this lesson, you should be able to answer:

- How do we solve multi-step inequalities?

Warm Up: Solve the following.

a. $2x - 7 = 9 + 4x$

b. $\frac{1}{2}a = \frac{a-3}{4}$

Example 1: Maggie Brann has a budget of \$115 for faxes. The fax service she uses charges \$25 to activate an account and \$0.08 per page to send faxes. How many pages can she fax and stay within her budget? Identify a variable, then set up and solve an inequality. Interpret your solution.

Example 2: Solve the inequality $13 - 11d \geq 79$.

Example 3: Define a variable, write an inequality and solve the problem. Then check your solution. *Four times a number increased by twelve is less than the difference of that number and three.*

Example 4: Solve and check each.

a. $6c + 3(2 - c) > -2c + 1$

b. $-7(k + 4) + 11k \geq 8k - 2(2k + 1)$

c. $2(4r + 3) \leq 22 + 8(r - 2)$

Summarizer: How could you solve $-3p + 7 > 2$ without multiplying or dividing each side by a negative number.

Problem Set 1: p. 298 #1-11

Problem Set 2: p. 298 #13-39 odd (skip #37)

"The secret of success in life is for a man to be ready for his opportunity when it comes."
- Earl of Beaconsfield